

The Quadratic Formula IntroductionFactor $y=x^2+7x+6$

M: 6

A: 7

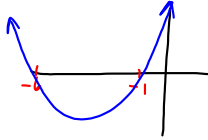
N: 1, 6
T: 1, 6

$$y = (x+6)(x+1)$$

What does the factored form tell us?

Zeros are -1, -6

What would the graph look like?

Now, let's try factoring $y=x^2+9x+11$

We can't MAN up!

but, when we graph it, we
see 2 zeroes.

let's solve this with a formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\begin{array}{ccccc}
 & a & & b & & c \\
 & \text{red} & & \text{green} & & \text{blue} \\
 & a=1 & & b=9 & & c=11
 \end{array}$$

$$x = \frac{-9 \pm \sqrt{9^2 - 4(1)(11)}}{2(1)}$$

Answer 1

$$x = \frac{-9 + \sqrt{9^2 - 4(1)}}{2}$$

$$x = \frac{-9 + \sqrt{81 - 44}}{2}$$

$$x = \frac{-9 + 6.1}{2}$$

$$= \frac{-2.9}{2}$$

$$= -1.45$$

Answer 2

$$x = \frac{-9 - \sqrt{9^2 - 4(1)}}{2}$$

$$= \frac{-9 - \sqrt{81 - 44}}{2}$$

$$= \frac{-9 - 6.1}{2}$$

$$= \frac{-15.1}{2}$$

$$= -7.55$$

Formula always works
but factoring is more
efficient.

ex $x^2 + 5x + 6$